DOCUMENT RESUME

ED 308 978 PS 018 174

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TITLE Licensure and Program Quality in Child Care and Early Childhood Programs.
SPONS AGENCY Pennsylvania State Dept. of Public Welfare, Harrisburg.
PUB DATE Jul 89
NOTE 16p.
PUB TYPE Reports - Evaluative/Feasibility (142)

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS *Certification; Comparative Analysis; *Day Care; Early Childhood Education; Educational Policy; *Educational Quality; *Family Day Care; Nonprofit Organizations; *Program Evaluation; Rural Urban Differences; *State Programs
IDENTIFIERS *Pennsylvania; State Regulation

ABSTRACT

This study investigated the quality of day care in Pennsylvania. Observations and evaluations were made of 149 day care centers and family day care homes. Measures used included the Child Development Program Evaluation Licensing Scale--day care and family day care versions (CDPE), the Early Childhood Environment Rating Scale (ECERS), and the Family Day Care Home Rating Scale (FDCRS). It was hypothesized that there would be: (1) no significant differences between nonprofit and profit centers; (2) no significant differences between agency-sponsored family day care homes and independent homes; (3) no significant differences between day care centers and family day care homes; (4) a positive relationship between CDPE licensing scores and ECERS scores; and (5) no significant differences between rural and urban day care centers and family day care homes. Findings confirmed hypothesis 2, but not hypotheses 1, 3, 4, and 5. (RH)

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ED308978

LICENSURE AND PROGRAM QUALITY IN CHILD CARE AND EARLY CHILDHOOD PROGRAMS

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July 1989

PS 018774

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This research was supported by a grant from the Department of Public Welfare, Commonwealth of Pennsylvania, Office of Policy, Evaluation and Development.

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LICENSURE AND PROGRAM QUALITY IN CHILD CARE AND EARLY CHILDHOOD PROGRAMS
THE PENNSYLVANIA DAY CARE QUALITY STUDY II

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ABSTRACT

This study is the latest in a series of third wave research on day care quality. The study was conducted statewide in Pennsylvania. Observations and evaluations were made of 149 day care centers and family day care homes utilizing the Child Development Program Evaluation Licensing Scale--day care and family day care versions (CDPE) and the Early Childhood Environment Rating Scale (ECERS) and the Family Day Care Home Rating Scale (FDCRS). Results indicated a significant difference between nonprofit and profit day care centers; day care centers scored significantly higher (ECERS) than family day care homes (FDCRS); program compliance scores as measured by the CDPE and program quality as measured by the ECERS/FDCRS showed a strong curvilinear relationship; rural programs scored significantly higher than urban programs on the program quality measures. This study expands upon several third wave research studies as reported by Phillips (1987).

INTRODUCTION

Day care research has been characterized in terms of waves of research. The first wave asked the question "Is child care good or bad?". The second wave asked the question "What are the effects of different kinds of child care?". This study is based upon several day care research studies that have been characterized as a third wave of research in child care in which the questions have become more complex (Clarke-Stewart, 1987).

In one of those studies, Kontos and Fiene (1987) looked specifically at the relationship between licensing and program quality in day care centers. In a review of these third wave research studies (Phillips & Howes, 1987) program quality and program compliance of day care programs and other dimensions of regulatory compliance were described in global assessment terms. In a related study, Kontos and Fiene (1985) built in a controlling feature--the funding status of the day care programs (nonprofit or profit status) which had a significant impact on the relative quality of programs evaluated. In both the Phillips et al (1987) and the Kontos & Fiene (1987) studies, the Early Childhood Environment Rating Scale (ECERS) (Harms & Clifford, 1980) was used for the program quality assessments. Kontos & Fiene also used the Child Development Program Evaluation Scale (CDPE) (Fiene, Douglas, & Kroh, 1979), the licensing scale used in Pennsylvania.

This study expands on the Kontos & Fiene (1987) and Phillips et al (1987) studies by expanding the sample size significantly and evaluates not only day care centers but family day care homes. In expanding to family day care homes this study replicates another third wave research study by Goelman & Pence (1987). This study expands upon several studies by Fiene (1981, 1983, 1985, 1987, 1988) in exploring licensing systems as quality assurance systems. Lastly, based on suggested research by Phillips (1987), rural, suburban and urban variations were contained in this study as well.

This study had several hypotheses: 1) There would be no significant differences between nonprofit and profit centers; 2) There would be no significant differences between agency sponsored family day care homes and independent homes; 3) There would be no significant differences between day care centers and family day care homes; 4) There would be a positive relationship (linear correlation) between CDPE licensing scores and ECERS scores; 5) There would be no significant differences between rural and urban day care centers and family day care homes.

The results of this study confirm hypothesis #2 but do not confirm hypotheses #1, 3, 4, and 5.

METHODOLOGY

Data Collection and Sample:

Data were collected from 87 day care centers and 62 family day care homes located in eleven counties throughout Pennsylvania (Allegheny, Bucks, Butler, Delaware, Erie, Lehigh, Luzerne, Philadelphia, Washington, Westmoreland, and York). These counties provide over 50% of the day care services in the state of Pennsylvania. Day care centers and family day care homes were randomly selected from the Pennsylvania Day Care Licensing List and invited to participate. Sixty-four percent of the day care centers selected agreed to participate. A large percentage of family day care homes (72%) were no longer providing services. Replacements for both groups were randomly selected until the desired sample size was obtained. Of the 87 day care centers, 56 were profit and 31 nonprofit, with 26 agency sponsored and 36 independent family day care homes. Of the 87 day care centers, 64% were profit (n = 56) and 36% were non-profit (n = 31); of the 62 family day care homes, 42% were agency sponsored (n = 26) and 58% were independent (n = 36). These percentages represent the statewide percentages for these respective sponsored providers. All the day care centers were licensed and the family day care homes were registered using the Pennsylvania day care regulations. Chart 1 displays the number of day care centers and family day care homes by county.

CHART 1
NUMBER OF DAY CARE PROGRAMS IN SPECIFIC COUNTY LOCATIONS

COUNTY	DAY CARE CENTERS	FAMILY DAY CARE HOMES	TOTAL
Allegheny	23	14	37
Bucks	9	1	10
Butler	1	4	5
Delaware	9	3	12
Erie	3	5	8
Lehigh	5	7	12
Luzerne	5	3	8
Philadelphia	20	13	33
Washington	2	1	3
Westmoreland	6	6	12
York	4	5	9
Totals	87	62	149

Data on both the ECERS and FDCRS were collected by 17 graduate and undergraduate students in the elementary education program at Pennsylvania State University at Harrisburg. Students went through an intensive two week

training program in conducting observations and evaluations in day care programs. This training included classroom instruction as well as site observations at several day care centers and family day care homes in order to establish inter-rater reliability. In all cases inter-rater reliability was established at a .90 level or above. In order to maintain this high level of inter-rater reliability, training observations and data collections were done with teams of two observers at each day care center and family day care home site.

The CDPE data were collected by the state regional day care licensing staff and not by the student observers.

Instrumentation:

The instruments used in this study were (a) the Early Childhood Environment Rating Scale (ECERS) for all day care centers, (b) the Family Day Care Rating Scale (FDCRS) for all family day care homes, and (c) the Child Development Program Evaluation scale (CDPE) for comparisons between program quality and level of compliance with state regulations.

The Early Childhood Environment Rating Scale is a measure of program quality and consists of seven scales: (1) Personal Care, (2) Furnishings/Display, (3) Language/Reasoning, (4) Fine/Gross Motor, (5) Creative Activities, (6) Social Development, and (7) Adults Needs. This instrument has been widely used in the early childhood field for several years for determining the quality of child care.

The Family Day Care Rating Scale is a measure of program quality and consists of six scales: (1) Space and Furnishings for Care and Learning, (2) Basic Care, (3) Language and Reasoning, (4) Learning Activities, (5) Social Development, and (6) Adult Needs. This instrument is relatively new and has not had the test of time. However, the instrument parallels the ECERS providing some evidence of content validity. In addition, the reliabilities obtained in this research support its use (see Chart 2).

The following ratings were used with the ECERS and FDCRS: poor = 1; minimal = 3; good = 5; and excellent = 7. All scores are the averages of the total raw scores divided by the number of items on that particular scale. These average scores were used for analyses rather than the raw scores so that comparisons could be made between the ECERS and FDCRS scores.

The Child Development Program Evaluation Scale is the licensing instrument used in Pennsylvania as the quality regulatory system. This instrument consists of seven scales: (1) Administration, (2) Environmental Safety, (3) Child Development Program, (4) Nutrition, (5) Social Services, (6) Health, and (7) Transportation. Ratings for the CDPE were either 1 = full compliance or 0 = non compliance with each regulatory item.

Definitions and examples of each scale of the above instruments can be found in Appendix A.

Chart 2 contains the alpha internal consistency reliabilities for each scale on the ECERS and FDCRS. Alpha reliabilites of .70 or greater are

considered acceptable for this type of measure (Gable, 1986; Nunnally, 1978). As can be seen in Chart 2, the alpha reliabilities are acceptable on all scales of the ECERS and all but one on the FDCRS. The Social Developement scale on the FDCRS had an alpha reliablility of .48:

CHART 2
ALPHA RELIABILITIES FOR EACH SCALE ON THE ECERS AND FDCRS

ECERS:

SCALE	ALPHA	STANDARDIZED ALPHA
Basic Care	.69	.70
Space & Furnishings	.77	.78
Language	.87	.87
Motor	.83	.84
Creative	.83	.83
Social	.79	.81
Adult	.77	.77
Total	.95	.96

FDCRS:

SCALE	ALPHA	STANDARDIZED ALPHA
Space & Furnishings	.88	.88
Basic Care	.85	.86
Language	.93	.93
Learning	.87	.87
Social	.48	.45
Adult	.68	.70
Total	.95	.95

On a selected sample, the CDPE scores were compared to the ECERS scores. This analysis was completed to establish the validity of the ECERS scores. There was a curvilinear relationship between the ECERS and the CDPE-CL--these results are reported in the RESULTS section of this paper.

Both the ECERS and the CDPE scales have been used in several day care and early childhood studies over the past ten years. The ECERS is one of the most reliable program quality instruments while the CDPE is one of the most reliable program compliance instruments available (see Fiene, 1988 for a detailed listing of available instruments for assessing and evaluating early childhood and child care programs).

RESULTS

This section will be divided into the following sub-sections: 1) ECERS data comparing nonprofit and profit day care centers; 2) FDCRS data comparing agency sponsored and independent family day care homes; 3) ECERS and FDCRS data comparisons; 4) ECERS and CDPE data comparisons; and 5) ECERS and FDCRS data comparisons for urban and rural day care programs.

1) Early childhood environment rating scale (ECERS)--nonprofit and profit day care centers.

A critical issue was to determine the relative levels of quality in nonprofit and profit day care centers. Studies (Fiene, 1983; Kontos & Fiene, 1987) that have been completed had somewhat conflicting findings but generally the results favored the nonprofit programs in that they had scored higher on both program quality (ECERS) and program compliance with state day care regulations (CDPE) instruments in the past. In this study the results were significantly in favor of the nonprofit providers. This study confirmed these previous studies as nonprofit centers were observed to be significantly higher in quality. On six of the seven scales the nonprofit day care centers scored significantly higher than profit day care centers (see chart 3). There was no significant difference on the Basic Care scale.

CHART 3

COMPARISON OF NONPROFIT AND PROFIT DAY CARE CENTERS ON THE ECERS

SCALES	PROFIT DCC MEANS	NONPROFIT DCC MEANS	t	p <
Basic care	4.48	4.63	-.67	n.s.
Furnishings	4.06	4.54	-2.00	.05
Language	4.23	4.80	-2.51	.02
Motor	4.61	5.13	-2.55	.02
Creative	4.02	4.68	-2.84	.01
Social	3.24	3.88	-2.78	.01
Adult	4.16	4.73	-2.20	.04

This is a clear indication that the nonprofit day care centers are of a significantly higher quality than the profit day care centers in the sample drawn in Pennsylvania. Even though no significant difference was found on the Basic Care scale, the trend of the means was still in favor of the non profit centers. (see Chart 3)

2) Family day care rating scale (FDCRS)--agency sponsored and independent family day care homes data comparisons.

This series of analyses dealt with family day care homes. The purpose of these analyses was to determine the levels of quality between agency sponsored and independent family day care homes. Results in the past (Fiene, 1985) have had conflicting quality scores. This study supports the finding that there are no significant differences between agency and independent family day care homes (except for Space scale) although the trend appears to favor independent family day care homes (see Chart 4).

CHART 4

COMPARISON OF AGENCY SPONSORED AND INDEPENDENT FAMILY DAY CARE HOMES ON THE FDCRS

SCALE	AGENCY SPONSORED MEANS	INDEPENDENT MEANS	t	p <
Space & Furnishings	3.05	3.82	-2.61	.01
Basic care	3.52	3.74	-.79	n.s.
Language	3.88	4.18	-.82	n.s.
Learning	3.49	3.87	-1.39	n.s.
Social	3.68	3.91	-1.13	n.s.
Adult	4.49	4.25	.88	n.s.

3) Early childhood environment rating scale (ECERS) and Family day care rating scale (FDCRS) data comparisons.

These analyses basically supported a study conducted in Canada by Goelman and Pence (1987) although there were some differences in several of the scale means. In both studies, the day care centers scored significantly higher than family day care homes (see chart 5). However, in this study, the Social Development scale was higher in the family day care homes, while in the Goelman and Pence study, the Adult Needs scale was slightly higher in the family day care homes.

The total FDCRS and ECERS score for the Fiene and Melnick study were 3.80 (FDCRS) and 4.38 (ECERS); the Goelman and Pence study means were 3.35 (FDCRS) and 4.62 (ECERS).

CHART 5

COMPARISON OF FAMILY DAY CARE HOMES AND DAY CARE CENTERS UTILIZING THE FIENE & MELNICK (1989) AND GOELMAN & PENCE (1987) STUDIES

SCALE	FIENE & MELNICK STUDY		GOELMAN & PENCE STUDY	
	FDC MEANS	DCC MEANS	FDC MEANS	DCC MEANS
Space	3.50	4.23	3.55	4.80
Basic care	3.65	4.54	3.24	4.80
Language	4.06	4.43	3.36	4.40
Learning	3.71	4.54	3.57	4.80
Social	3.81	3.46	3.02	4.31
Adult	4.35	4.36	4.03	4.00

4) Early childhood environment rating scale (ECERS) and Child development program evaluation scale (CDPE) data comparisons.

This series of analyses built in for validity purposes are potentially the most significant in comparing ECERS data with CDPE licensing data. As has been reported in several earlier studies (Fiene, 1985, 1986, 1987), an interesting curvilinear relationship between program quality and program compliance appears (see chart 6). This result has been confirmed in several studies (Fiene, 1988) but this study is the largest and most comprehensive of this type.

CHART 6

COMPARISON OF CHILD DEVELOPMENT PROGRAM EVALUATION SCALE DATA AND EARLY CHILDHOOD ENVIRONMENT RATING SCALE DATA

	ECERS	CDPE	
LOW QUALITY	132	26	LOW COMPLIANCE
HIGH QUALITY	165	85	SUBSTANTIAL COMPLIANCE
MEDIUM QUALITY	144	100	FULL COMPLIANCE

Also, lending additional support to this phenonmenon are the results from the regional day care offices. Western region emphasizes full compliance more than the other regions while Northeast emphasizes substantial but not full compliance (see chart 7). As can be seen in Chart

7, the quality ratings on each scale for Northeast Region (substantial compliance) are consistently higher than Western Region (full compliance).

CHART 7

COMPARISON OF EARLY CHILDHOOD ENVIRONMENT RATING SCALE DATA FOR THE FOUR REGIONAL DAY CARE OFFICES

SCALE	WESTERN MEANS	NORTHEAST MEANS	SOUTHEAST/CENTRAL MEANS	F	p <
Space	4.05	4.60	3.59	7.31	.01
Basic care	4.28	4.55	3.93	3.25	.04
Language	4.40	4.78	4.01	3.50	.03
Learning	4.31	4.54	3.88	4.12	.02
Social	3.71	3.89	3.42	2.59	n.s.
Adult	4.49	4.65	4.13	2.39	n.s.

Results were significant on all the scales with Northeast Region having the highest scores followed by Western Region and finally by Southeast and Central Regions. The only exceptions were on the Social Development and Adult Needs Scales where trends were indicated but they did not reach statistical significance.

5) Urban and rural day care program comparisons on the ECERS and FDCRS.

With the exception of the Adult Needs scale, all the other scale means were significantly different in favor of the more rural day care programs. Even the Adult Needs scale, albeit not significant, shows a clear trend in favor of the more rural day care programs. This analysis is in response to a research question raised by Phillips (1987) in QUALITY IN CHILD CARE: WHAT DOES RESEARCH TELL US? in which the author suggests this type of study for further exploration.

Chart 8 depicts clearly that rural day care programs score significantly higher than urban day care programs on both the ECERS and FDCRS (the only exception is on the Adult Needs scale).

CHART 8

COMPARISON OF URBAN AND RURAL DAY CARE PROGRAMS ON THE ECERS AND FDCRS

SCALE	URBAN MEANS	SUBURBAN MEANS	RURAL MEANS	F	p <
Space	3.62	4.16	4.45	5.24	.01
Basic care	4.00	4.25	5.87	5.32	.01
Language	4.05	4.39	5.44	5.15	.01
Learning	4.00	4.25	4.91	3.06	.05
Social	3.49	3.62	4.50	4.46	.01
Adult	4.24	4.42	4.79	1.08	n.s.

DISCUSSION AND CONCLUSION

Interesting aspects of this study include that it is a multi-site day care center and family day care home study which has been proposed by Phillips (1987) as a major study design factor in conducting child care research. A major day care policy question regarding the relationship of program compliance and program quality appears to be of a curvilinear relationship rather than linear. This was a caution noted by Clarke-Stewart (1987) regarding certain regulatory requirements. This study is an expansion of a previous research study that was used as a day care policy model (Kontos & Fiene, 1987). It is possibly in this last area that this research study makes its most significant advance in early childhood/day care policy research.

This study significantly impacts day care policy on several fronts. Day care policy that attempts to increase parental choice without searching for why nonprofit subsidized day care quality is significantly higher will be myopic in any public policy formulation.

Probably the most significant result is the relationship between program compliance (CDPE) and program quality (ECERS). This is an area where the data do not support day care licensing policy. The present position of full compliance with state day care regulations does not appear to be sound policy based upon the results in this study and previous studies (see Fiene, 1985, 1986, 1987; Kontos & Fiene, 1987). States need to reconsider their position regarding this policy decision and to entertain a proposal made by Fiene (1986, 1988) and which has appeared in Taylor (1989) that deals with indicator licensing systems. This proposal introduced indicator licensing systems that incorporate only key predictors of licensing compliance with program quality indicators. Indicator licensing systems are very effective and efficient day care monitoring systems.

The FDCRS analyses are interesting in that they did not follow the same

pattern as the nonprofit and profit day care centers. Agency sponsored family day care homes did not score significantly higher on the FDCRS than the independent family day care homes. Previous studies had always indicated that agency sponsored family day care homes scored significantly higher than independent family day care homes.

The analyses comparing the day care center programs with the family day care programs support the Goelman and Pence (1987) research coming from Canada in which day care centers scored significantly higher than the family day care homes. The only exceptions in this study were with the Social Development and the Adult Needs scales.

The urban and rural day care program analyses pointed out some interesting findings although the impact of policy formulation and direction based on these results is somewhat doubtful. The creation of day care programs are driven by market forces of supply and demand by parents and not geographic distribution.

The reliability scores (Cronbach alpha) for both the ECERS and FDCRS are very encouraging, and the positive curvilinear relationship between the ECERS and CDPE indicates that a potentially effective and efficient day care monitorng system that uses the CDPE-indicator system and the ECERS in tandem is a viable day care policy option (see Taylor, 1989 & Fiene, 1986 for explanations of this program compliance and program quality day care policy model).

This study helps to clear up and also add to the confusion in the day care research literature. Nonprofit day care programs appear to be of a higher quality but why this doesn't translate to agency sponsored homes needs to be investigated. Day care centers are on the average of a higher quality than family day care homes--this is not totally unexpected. Another issue needing further investigation is why there is a drop-off in quality when centers go from "substantial" to "full" compliance.

This last issue is a troublesome one because it is diametrically opposed to state day care licensing policy in most states and has tremendous implications if Federal regulations are promulgated (will full compliance with regulations be a Federal policy?).

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APPENDIX A

The ECERS consists of seven scales: Personal care routines of children: all routines associated with the comfort, health, and well-being of the children: for example, diapering, rest, and meals. Furnishings and display for children: making available, taking care of, arranging, and using regularly with children the furniture, storage shelves, and display space necessary to provide personal care and an educational program. Language-reasoning experiences: use of materials, activities and teaching interactions to help children learn to communicate in words and to use relationships basic to thought, such as size relationships, cause and effect, steps in a sequence, and time relationships (Harms & Clifford, 1980).

Fine and gross motor activities: fine motor activities exercise the fine or small muscles, such as the muscles of the hand used in drawing, cutting with scissors, or picking up a small object. Since the coordination of the eye and the hand are usually needed for fine motor work, these activities are sometimes called perceptual-fine motor activities. Gross motor activities exercise the gross or larger muscles, such as the muscles of the legs used in climbing and running or the muscles of the arms used in swinging (Harms & Clifford, 1980).

Creative activities: activities and materials, such as those used in art, block building, and dramatic play, are flexible, open ended, do not have one right answer, and allow for a wide variety of constructive uses. Social development: guiding the children's development of a good image of themselves and others and helping them to establish interaction skills. Adult needs: providing space and equipment for the key adults in the early childhood setting--the teachers and parents (Harms & Clifford, 1980).

The Child Development Program Evaluation Scale (CDPE) is the licensing instrument used in Pennsylvania as the quality regulatory system. There are seven scales in the CDPE: administration (adult child ratio, records management), environmental safety (hazard free environment), child development program (curriculum, assessments), nutrition (menus, feeding schedules), social services (intake, parents), health (immunizations, health and child health appraisals), and transportation.

The CDPE is an instrument based program monitoring system and has the following characteristics: ensures equitable, enforceable monitoring of day care to meet desired level of child health and safety; ensures that day care promotes child development; provides for efficient and cost effective funding and monitoring procedures; and permits sound policy decision maki ng (Aronson & Fiene, 1978; Fiene, Douglas, & Kroh, 1979; Fiene & Nixon, 1981).